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OF	FEROR TO COMPLE	ΓΕ BLOCKS 12, 17,	23, 24, & 30				93420	50	33827	74			28	
2. CONTRACT NO	).	3. AWARD/EFFECTIVE DATE	4. ORDER NUMBER			5. SOL	ICITATION 1	NUMBE	ER			6. SOLICI DATE	ГАТІО	N ISSUE
		a. NAME				N65540-05-Q-0151 b. TELEPHONE NUMBER (No Collect Calls)				05-FEB-24 8. OFFER DUE DATE/				
7. FOR SOLI	-	,			ĺ	215-897-1494				LOCAL TIME 0400		0400		
9. ISSUED BY	JN CALL:	DAVID DEN	NICEEAO	10. THIS A	COUISTTIC		5-897-	111.	DELIVERY	FA FOR	FOB	5 – MAI 12. DISCO		
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				SIC: SIZE STA	359: NDARD:	9			RFQ		IFB			RFP
15. DELIVER TO RECEIVE	NG OFFICER, FI	SC. CO	DE N65540	16. ADMIN	ISTERED	BY						CODE	N6	5540
NSWC CA	RDEROCK DIVIS	SION												
PHILA.			-5,0,51									-		
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0001	REQN. NO. 93					125	EA							
	VOLTAGE SURG	E SUPPRESS	OR (TVSS)											
	BASE OUANTI													
		(Attach Additional Sheets as	Necessary)											
25. ACCOUNTING	AND APPROPRIATION DA	ГА						I	26. TOT	AL A	WARD A	MOUNT (	For Go	vt. Use Only)
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	ACT/PURCHASE ORDER IN							Γ	ARE	-	ARE AREN	AK [] ATTA TO		ATTACHED.
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FORTH OR C	THERWISE IDENTIFIED AS AND CONDITIONS SPECIFI	OVE AND ON ANY ADD	OTTIONAL SHEETS SUBJECT	ОТТО			5). INCLUI HEREIN, IS			TONS	OR CHA	FER ON S NGES WE		
30a. SIGNATURE	OF OFFEROR/CONTRACTO	DR .		31a. UNIT			MERICA (SIC					OFFICER)		
30b. NAME AND	TITLE OF SIGNER (TYPE O	R PRINT)	30c. DATE SIGNED	31b. NAM	E OF CON	TRACT	ING OFFICE	R (TYF	PE OR PRIN	(T)		31	c. DA	TE SIGNED
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		CONTRACT, EX	CEPT AS NOTED	PAKT		FINA	AL							
32b. SIGNATURE	OF AUTHORIZED GOVT, R	EPRESENTATIVE	32c. DATE	36, PAYM COM	PLETE	PAI	RTIAL	FINA	<b>AL</b>			37. CF	iECK I	NUMBER
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41a. I CER	TIFY THIS ACCOUNT IS CO	RRECT AND PROPER FO	R PAYMENT	-										
41b. SIGNATURE	AND TITLE OF CERTIFYIN	G OFFICER	41c. DATE	42b. RECE	EIVED AT	(Locatio	n)							
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# CONTINUATION SHEET

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VENDOR:

#### SECTION B SUPPLIES/SERVICES

ITEM	SUPPLIES/SERVICES	QUANTITY	UI U-PRICE	E AMOUNT
0002	REQN. NO. 93420 /50338279 ITEM NAME: SAME AS ITEM 0001	30	EA	
	BASE QUANTITY			
0003	REQN. NO. 93420 /50338278 ITEM NAME: ITEM 0003 TRANSIENT VOLTAGE SURG E SUPPRESSOR (TVSS) 115 VRMS	100	EA	
	BASE QUANTITY			
0004	REQN. NO. 93420 /50338280 ITEM NAME: SAME AS ITEM 0003	40	EA	
	BASE QUANTITY			
0005	REQN. NO. 93420 /50348678 ITEM NAME: TVSS-SAME AS ITEM 0001 OPTION 1	500	EA	
0006	REQN. NO. 93420 /50348679 ITEM NAME: TVSS-SAME AS ITEM 0001 OPTION 2	500	EA	
0007	REQN. NO. 93420 /50348680 ITEM NAME: TVSS-SAME AS ITEM 0003 OPTION 1	500	EA	
0008	REQN. NO. 93420 /50348681 ITEM NAME: TVSS-SAME AS ITEM 0003 OPTION 2	500	EA	
0009	REQN. NO. 93420 /50348682 ITEM NAME: FIRST ARTICLE TEST-TVSS	1	EA	

This RFQ is issued using Simplified Acquisition Procedures pursuant to the Test Program for Certain Commercial Items in accordance with SubPart 13.5 of the Federal Acquisition Regulation (FAR).

#### **DELIVERY:**

ITEM 0001, 0002, 0003 & 0004 — With First Article Testing

0001, 0002, 0003 & 0004 – With Waiver of First Article Testing

0009

0005, 0006, 0007 & 0008

**DELIVERY** 

100 days after date of Purchase Order or 60 days after First Article Approval, Whichever occurs last.

60 days after date of Purchase Order.

45 days after date of Purchase Order

Up to 250 each within 60 days after exercise of option with the balance to be delivered within 90 days after exercise of option.

# 52.217-6 Option For Increased Quantity (Mar 1989)

The Government may exercise the options covered by items 0005, 0006, 0007, and 0008 called for in the schedule of the unit price(s) specified. The Contracting Officer may exercise the options covered by items 0005 and 0007 at any time or times up to the quantities specified within one year after the date of Purchase Order and may exercise the options covered by items 0006 and 0008 at any time or times up to the specified quantities within two years after the date of Purchase Order. Delivery of the option quantities shall be in accordance with the required delivery schedule contained in the Purchase Order.

52.209-3 First Article Approval – Contractor Testing (Sep 1989)

(a) The Contractor shall test 1 units(s) of Lot/Item 0001 as specified in this Purchase Order. At least 15 calendar days before the beginning of first article tests, the Contractor

shall notify the Contracting Officer, in writing, of the time and location of the testing so that the Government may witness the tests.

- (b) The Contractor shall submit the first article test report within 45 days calendar days from the date of this contract to NSWCCD, 5001 S. Broad Street, Code 3351.1, Philadelphia, Pa 19112-1403 marked "FIRST ARTICLE TEST REPORT: Purchase Order Number, Lot/Item Number 0009" Within 15 calendar days after the Government receives the test report, the Contracting Officer shall notify the Contractor, in writing, of the conditional approval, approval, or disapproval of the first article. The notice of conditional approval or approval shall not relieve the Contractor from complying with all requirements of the specifications and all other terms and conditions of this Purchase Order. A notice of conditional approval shall state any further action required of the Contractor. A notice of disapproval shall cite reason for the disapproval.
- © If the first article is disapproved, the contractor, upon Government request, shall repeat any or all first article tests. After each request for additional tests, the Contractor shall make any necessary changes, modifications, or repairs to the first article or select another first article for testing. All costs related to these tests are to be borne by the Contractor, including any and all costs for additional test following disapproval. The Contractor shall then conduct the tests and deliver another report to the Government under the terms and conditions and within the time specified by the Government. The Government shall take action on this report within the time specified in paragraph (b) above. The Government reserves the right to require an equitable adjustment of the Purchase Order price for any extension of the delivery schedule, or for any additional costs to the Government related to these tests.
- (d) If the Contractor fails to deliver any first article report on time, or the Contracting Officer disapproves any first article, the Contractor shall be deemed to have failed to make delivery within the meaning of the Default clause of this Purchase Order.
- (e) Unless otherwise provided in the purchase order, and if the approved first article is not consumed or destroyed in testing, the Contractor may deliver the approved first article as part of the purchase order quantity if it meets all purchase order requirements for acceptance.
- (f) If the Government does not act within the time specified in paragraph (b) or (c) above, the Contracting Officer shall upon timely written request from the Contractor, equitably adjust under the Changes clause of this purchase order the delivery or performance dates and/or the purchase order price, and any other contractual term affected by the delay.
- (g) Before first article approval, the acquisition of materials or components for, or the commencement of production of, the balance of the contract quantity is at the sole risk of the Contractor. Before first article approval, the costs thereof shall not be allocable to this purchase order for (1) progress payments, or (2) termination settlements if the purchase order is terminated for the convenience of the Government.

(h) The Government may waive the requirement for first article approval test where supplies identical or similar to those called for in the schedule have been previously furnished by the offeror/contractor and have been accepted by the Government. The offeror/contractor may request a waiver.

#### SECTION F TIME OF DELIVERY

#### DELIVERIES SHALL BE IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS

ITEM	QUANTITY	DELIVERY REQUIRED
0001	125 EA	SEE SCHEDULE
0002	30 EA	SEE SCHEDULE
0003	100 EA	SEE SCHEDULE
0004	40 EA	SEE SCHEDULE
0005	500 EA	SEE SCHEDULE
0006	500 EA	SEE SCHEDULE
0007	500 EA	SEE SCHEDULE
0008	500 EA	SEE SCHEDULE
0009	1 EA	SEE SCHEDULE

52.209-3	FIRST ARTICLE APPROVAL-CONTRACTING TESTING	(SEP 1989)
52.217-6	OPTION FOR INCREASED QUANTITY	MAR 1989

52.247-34 F.O.B. DESTINATION (NOV 1991)

52.212-4 CONTRACT TERMS AND CONDITIONS--COMMERCIAL ITEMS (OCT 2003)

(a) Inspection/Acceptance. The Contractor shall only tender for acceptance those items that conform to the requirements of this contract. The Government reserves the right to inspect or test any supplies or services that have been tendered for acceptance. The Government may require repair or replacement of nonconforming supplies or reperformance of nonconforming services at no increase in contract price. The Government must exercise its post-acceptance rights--(1) Within a reasonable time after the defect was discovered or should have been discovered; and (2) Before any substantial change occurs in the condition of the item, unless the change is due to the defect in the item.

(b) Assignment. The Contractor or its assignee may assign its rights to receive payment due as a result of performance of this contract to a bank, trust company, or other financing institution, including any Federal lending agency in accordance with the Assignment of Claims Act (31 U.S.C. 3727). However, when a third party makes payment (e.g., use of the Governmentwide commercial purchase card), the Contractor may not assign its rights to receive payment under this contract.

(c) Changes. Changes in the terms and conditions of this contract may be made only by written agreement of the parties.

(d) Disputes. This contract is subject to the Contract Disputes Act of 1978, as amended (41 U.S.C. 601-613). Failure

of the parties to this contract to reach agreement on any request for equitable adjustment, claim, appeal or action arising under or relating to this contract shall be a dispute to be resolved in accordance with the clause at FAR 52.233-1, Disputes, which is incorporated herein by reference. The Contractor shall proceed diligently with performance of this contract, pending final resolution of any dispute arising under the contract.

(e) Definitions. The clause at FAR 52.202-1, Definitions,

- is incorporated herein by reference.

  (f) Excusable delays. The Contractor shall be liable for default unless nonperformance is caused by an occurrence Beyond the reasonable control of the Contractor and without the fault or realizance and as a fact of Cod or the public. its fault or negligence such as, acts of God or the public enemy, acts of the Government in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, unusually severe weather, and delays of common carriers. The Contractor shall notify the Contracting Officer in writing as soon as it is reasonably possible after the commencement of any excusable delay, setting forth the full particulars in connection therewith, shall remedy such occurrence with all reasonable dispatch, and shall promptly give written notice to the Contracting Officer of the cessation of such occurrence.
- (g) Invoice. (1) The Contractor shall submit an original invoice and three copies (or electronic invoice, if authorized,) to the address designated in the contract to receive invoices. An invoice must include--

(i) Name and address of the Contractor;

(ii) Invoice date and number; (111) Contract number, contract line item number and, it applicable, the order number;

applicable, the order number;

(iv) Description, quantity, unit of measure, unit price and extended price of the items delivered;

(v) Shipping number and date of shipment including the bill of lading number and weight of shipment if shipped on Government bill of lading;

(vi) Terms of any discount for prompt payment offered;

(vii) Name and address of official to whom payment is to be sent:

be sent; (viii) Name, title, and phone number of person to notify in event of defective invoice; and

- (ix) Taxpayer Indentification Number (TIN). The Contractor include its TIN on the invoice only if required elseswhere in this contract.
- (x) Electronic funds transfer (EFT) banking information. (A) The Contractor shall include EFT banking information on the invoice only if required elsewhere in this contract.

  (B) If EFT banking information is not required to be on the invoice, in order for the invoice to be a proper invoice, the Contractor shall have submitted correct EFT banking information in accordance with the applicable solicitation provision, contract clause (e.g., 52.232-33, Payment by Electronic Funds Transfer Central Contractor Registration, or 52.232-34, Payment by Electronic Funds Transfer Other Than Central Contractor Registration), or applicable agency procedures.

(C) EFT banking information is not required if the

Government waived the requirement to pay by EFT.

(2) Invoices will be handled in accordance with the Prompt Payment Act (31 U.S.C. 3903) and Office of Management and Budget (OMB) prompt payment regulations at 5 CFR part 1315.

(h) Patent indemnity. The Contractor shall indemnify the

Government and its officers, employees and agents against liability, including costs, for actual or alleged direct or contributory infringement of, or inducement to infringe, any United States or foreign patent, trademark or copyright, arising out of the performance of this contract, provided the Contractor is reasonably notified of such claims and Contractor is reasonably notified of such claims and proceedings.

(i) Payment. (1) Items accepted. Payment shall be made for items accepted by the Government that have been delivered to the delivery destinations set forth in this contract.

(2) Prompt payment. The Government will make payment in accordance with the Prompt Payment Act (31 U.S.C. 3903) and prompt payment regulations at 5 CFR part 1315.

(3) Electronic Funds Transfer (EFT). If the Government makes payment by EFT, see 52.212-5(b) for the appropriate EFT clause

clause.

(4) Discount. In connection with any discount offered for early payment, time shall be computed from the date of the invoice. For the purpose of computing the discount earned, payment shall be considered to have been made on the date which appears on the payment check or the specified payment date if an electronic funds transfer payment is made.

(5) Overpayments. If the Contractor becomes aware of a duplicate contract financing or invoice payment or that the Government has otherwise overpaid on a contract financing or invoice payment, the Contractor shall immediately notify the Contracting Officer and request instructions for disposition

of the overpayment.

(j) Risk of loss. Unless the contract specifically provides otherwise, risk of loss or damage to the supplies provided under this contract shall remain with the Contractor until, and shall pass to the Government upon:

(1) Delivery of the supplies to a carrier, if transportation is f.o.b. origin; or
(2) Delivery of the supplies to the Government at the destination specified in the contract, if transportation is

f.o.b. destination.

(k) Taxes. The contract price includes all applicable
Federal, State, and local taxes and duties.

(l) Termination for the Government's convenience. The
Government reserves the right to terminate this contract, any part hereof, for its sole convenience. In the event of such termination, the Contractor shall immediately stop all work hereunder and shall immediately cause any and all of its suppliers and subcontractors to cease work. Subject to the terms of this contract, the Contractor shall be paid a percentage of the contract price reflecting the percentage of the work performed prior to the position of termination. performed prior to the notice of termination, plus reasonable charges the Contractor can demonstrate to the satisfaction of the Government using its standard record keeping system, have resulted from the termination. The Contractor shall not be resulted from the termination. The Contractor shall not be required to comply with the cost accounting standards or contract cost principles for this purpose. This paragraph does not give the Government any right to audit the Contractor's records. The Contractor shall not be paid for any work performed or costs incurred which reasonably could have been avoided.

(m) Termination for cause. The Government may terminate this contract, or any part hereof, for cause in the event of any default by the Contractor, or if the Contractor fails to comply with any contract terms and conditions, or fails to provide the

with any contract terms and conditions, or fails to provide the Government, upon request, with adequate assurances of future performance. In the event of termination for cause, the Government shall not be liable to the Contractor for any amount

for supplies or services not accepted, and the Contractor shall be liable to the Government for any and all rights and remedies provided by law. If it is determined that the Government improperly terminated this contract for default, such termination shall be deemed a termination for convenience.

(n) Title. Unless specified elsewhere in this contract, title to items furnished under this contract shall pass to the Government upon acceptance, regardless of when or where the Government takes physical possession.

(o) Warranty. The Contractor warrants and implies that the

items delivered hereunder are merchantable and fit for use for

the particular purpose described in this contract.

(p) Limitation of liability. Except as otherwise provided by an express warranty, the Contractor will not be liable to the Government for consequential damages resulting from any defect or deficiencies in accepted items.

(q) Other compliances. The Contractor shall comply with all applicable Federal, State and local laws, executive orders, rules and regulations applicable to its performance under this contract. (r) Compliance with laws unique to Government contracts. The

(r) Compliance with laws unique to Government contracts. The Contractor agrees to comply with 31 U.S.C. 1352 relating to limitations on the use of appropriated funds to influence certain Federal contracts; 18 U.S.C. 431 relating to officials not to benefit; 40 U.S.C. 327, et seq., Contract Work Hours and Safety Standards Act; 41 U.S.C. 51-58, Anti-Kickback Act of 1986; 41 U.S.C. 265 and 10 U.S.C. 2409 relating to whistleblower protections; 49 U.S.C. 40118, Fly American; and 41 U.S.C. 423 relating to procurement integrity. relating to procurement integrity.

(s) Order of precedence. Any inconsistencies in this solicitation or contract shall be resolved by giving precedence in the following order:

- (1) The schedule of supplies/services.
  (2) The Assignments, Disputes, Payments, Invoice, Other Compliances, and Compliance with Laws Unique to Government Contracts paragraphs of this clause.
  (3) The clause at 52.212-5.
- (4) Addenda to this solicitation or contract, including any license agreements for computer software.

  (5) Solicitation provisions if this is a solicitation.

  (6) Other paragraphs of this clause.

  (7) The Standard Form 1449.

(8) Other documents, exhibits, and attachments.

(9) The specification.

(t) Central Contractor Registration (CCR). (1) Unless exempted by an addendum to this contract, the Contractor is responsible during performance and through final payment of any contract for the accuracy and completeness of the data within the CCR database, and for any liability resulting from the Government's reliance on inaccurate or incomplete data. To remain registered in the CCR database after the initial registration, the Contractor is required to review and update on an annual basis from the date of initial registration or subsequent updates its information in the CCR database to ensure it is current, accurate and complete. Updating information in the CCR does not alter the terms and conditions of this contract and is not a substitute for a

properly executed contractual document.

(2) (i) If a Contractor has legally changed its business name, "doing business as" name, or division name (whichever is shown on the contract), or has transferred the assets used in performing the contract, but has not completed the necessary requirements regarding novation and change-of-name agreements in FAR subpart 42.12, the Contractor shall provide the responsible Contracting Officer a minimum of one business day's written notification of

its intention to (A) change the name in the CCR database; (B) comply with the requirements of subpart 42.12; and (C) agree in writing to the timeline and procedures specified by the responsible Contracting Officer. The Contractor must provide with the notification sufficient documentation to support the legally changed name.

(ii) If the Contractor fails to comply with the requirements of paragraph (t)(2)(i) of this clause, or fails to perform the agreement at paragraph (t)(2)(i)(C) of this clause, and, in the absence of a properly executed notation or change-of-name agreement the CCR information that shows the Contractor to be agreement, the CCR information that shows the Contractor to be other than the Contractor indicated in the contract will be considered to be incorrect information within the meaning of the "Suspension of Payment" paragraph of the electronic funds transfer (EFT) clause of this contract.

(3) The Contractor shall not change the name or address for EFT payments or manual payments, as appropriate, in the CCR record to reflect an assignee for the purpose of assignment of claims (see Subpart 32.8, Assignment of Claims). Assignees shall be separately registered in the CCR database. Information provided to the Contractor's CCR record that indicates payments, including those made by EFT, to an ultimate recipient other than that Contractor will be considered to be incorrect information within the meaning of the "Suspension of payment" paragraph of the EFT clause of this contract.

(4) Offerors and Contractors may obtain information on registration and annual confirmation requirements via the internet at http://www.ccr.gov or by calling 1-888-227-2423 or 269-961-5757.

52.212-5 CONTRACT TERMS AND CONDITIONS REQUIRED TO IMPLEMENT STATUTES OR EXECUTIVE ORDERS--COMMERCIAL ÎTEMS (JAN 2005)

(a) The Contractor shall comply with the following Federal Acquisition Regulation (FAR) clauses, which are incorporated in this contract by reference, to implement provisions of law or Executive orders applicable to acquisitions of commercial items:

(1) 52.233-3, Protest After Award (AUG 1996) (31 U.S.C. 3553).
(2) 52.233-4, Appliable Law for Breach of Contract Claim
(OCT 2004) (Pub. L. 108-77, 108-78)
(b) The Contractor shall comply with the FAR clauses in this paragraph (b) that the Contracting Officer has indicated as being incorporated in this contract by reference to implement provisions of law or Executive orders applicable to acquisitions of commercial items: [Contracting Officer check as appropriate.]

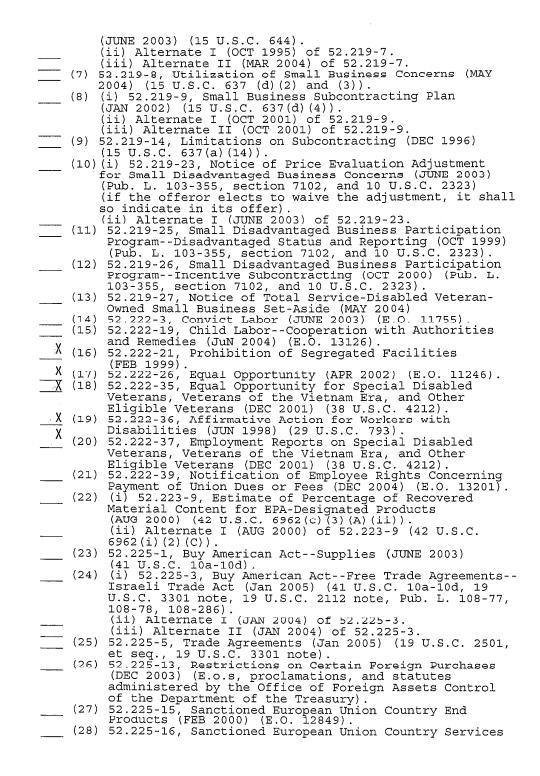
(1) 52.203-6, Restrictions on Subcontractor Sales to the Government (JUL 1995), with Alternate I (OCT 1995) (41 U.S.C. 253g and 10 U.S.C. 2402).
(2) 52.219-3, Notice of Total HUBZone Set-Aside (JAN 1999) (15 U.S.C. 657a).

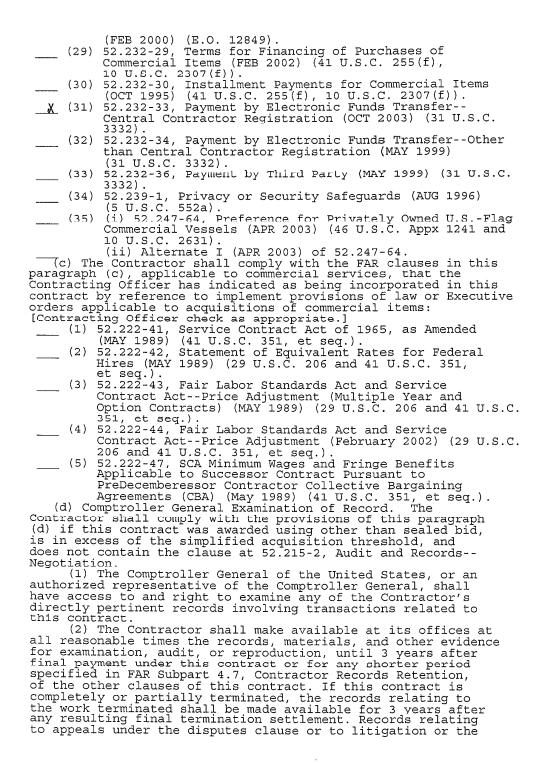
(3) 52.219-4, Notice of Price Evaluation Preference for HUBZone Small Business Concerns (JAN 1999) (if the

offeror elects to waive the preference, it shall so indicate in its offer) (15 U.S.C. 657a).

(4) (i) 52.219-5, Very Small Business Set-Aside (JUNE 2003) (Pub. L. 103-403, section 304, Small Business Reauthorization and Amendments Act of 1994). (ii) Alternate I (MAR 1999) of 52.219-5. (iii) Alternate II (JUNE 2003) of 52.219-5.

(11) Alternate II (JUNE 2003) OF 52.219-5.
(5) (i) 52.219-6, Notice of Total Small Business Set-Aside (JUNE 2003) (15 U.S.C. 644).
(ii) Alternate I (OCT 1995) of 52.219-6.
(iii) Alternate II (MAR 2004) of 52.219-6.
(6) (i) 52.219-7, Notice of Partial Small Business Set-Aside





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**VENDOR:** 

settlement of claims arising under or relating to this contract shall be made available until such appeals, litigation, or

claims are finally resolved.

(3) As used in this clause, records include books, documents, accounting procedures and practices, and other data, regardless of type and regardless of form. This does not require the Contractor to create or maintain any record that the Contractor does not maintain in the ordinary course of business or pursuant to a provision of law.

(e)(1) Notwithstanding the requirements of the clauses in paragraphs (a), (b), (c), and (d) of this clause, the Contractor is not required to flow down any FAR clause, other than those in paragraphs (i) through (vi) of this paragraph in a subcontract for commercial items. Unless otherwise indicated below, the extent of the flow down shall be as required by the clause--

- (i) 52.219-8, Utilization of Small Business Concerns (May 2004) (15 U.S.C. 637(d)(2) and (3)), in all subcontracts that offer further subcontracting opportunities. If the subcontract (except subcontracts to small business concerns) exceeds \$500,000 (\$1,000,000 for construction of any public
- exceeds \$500,000 (\$1,000,000 for construction of any public facility), the subcontractor must include 52.219-8 in lower tier subcontracts that offer subcontracting opportunities.

  (ii) 52.222-26, Equal Opportunity (April 2002) (E.O. 11246).

  (iii) 52.222-35, Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (December 2001) (38 U.S.C. 4212).

  (iv) 52.222-36, Affirmative Action for Workers with Disabilities (June 1998) (29 U.S.C. 793).

- Disabilities (June 1998) (29 U.S.C. 793). (v) 52.222-39, Notification of Employee Rights Concerning
- of Union Dues or Fees (DEC 2004) (E.O. 13201). (vi) 52.222-41, Service Contract Act of 1965, as Amended (May
- 1989), flow down required for all subcontracts subject to the Service Contract Act of 1965 (41 U.S.C. 351, et seq.).

  (vii) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (April 2003) (46 U.S.C. Appx 1241 and 10 U.S.C. 2631). Flow down required in accordance with paragraph
- (d) of FAR clause 52.247-64.

  (2) While not required, the contractor May include in its subcontracts for commercial items a minimal number of additional clauses necessary to satisfy its contractual obligations.
- 252.212-7001 CONTRACT TERMS AND CONDITIONS REQUIRED TO IMPLEMENT STATUTES OR EXECUTIVE ORDERS APPLICABLE TO DEFENSE ACQUISITIONS OF COMMERCIAL ITEMS (JAN 2005)
- (a) The contractor agrees to comply with the following Federal Acquisition Regulation (FAR) clause which, if checked, is included in this contract by reference to implement a provision of law applicable to acquisitions of commercial items or components.
  - \_ 52.203-3 Gratuities (APR 1984) (10 U.S.C. 2207)
- (b) The Contractor agrees to comply with any clause that is checked on the following list of Defense FAR Supplement clauses which, if checked, is included in this contract by reference to implement provisions of law or Executive orders applicable to
- acquisitions of commercial items or components.

  252.205-7000 Provision of Information to Cooperative
  Agreement Holders (DEC 1991) (10 U.S.C. 2416).

  252.219-7003 Small Disadvantaged and Women-Owned Small

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Business Subcontracting Plan (DoD Contracts) (APR 1996)
         (15 U.S.C. 637).
        252.219-7004 Small, Small Disadvantaged and Women-Owned
        Small Business Subcontracting Plan (Test Program) (JUN 1997) (15 U.S.C. 637 Note).
 X 252.225-7001 Buy American Act and Balance of Payments
        Program (APR 2003) (41 U.S.C. 10a-10d, E.O. 10582). 252.225-7012 Preference for Certain Domestic Commodities (JUN 2004) (10 U.S.C. 2533a).
        252.225-7014 Preference for Domestic Specialty Metals
         (APR 2003) (10 U.S.C. 2533a)
     _ 252.225-7015 Restriction on Acquisition of Hand or Measuring Tools (APR 2003) (10 U.S.C. 2533a).
     252.225-7016 Restriction on Acquisition of Ball and
Roller Bearings (MAY 2004) ( Alternate I) (APR 2003)
(10 U.S.C. 2534 and Section 8099 of Pub. L. 104-61) and
        similar sections in subsequent DoD appropriations acts). 252.225-7021 Trade Agreements (JAN 2005) (19 U.S.C. 2501-2518 and 19 U.S.C. 3301 note).
        252.225-7027 Restriction on Contingent Fees for Foreign
        Military Sales (APR 2003) (22 U.S.C. 2779).
252.225-7028 Exclusionary Policies and Practices of
Foreign Governments (APR 2003) (22 U.S.C. 2755).
         252.225-7036 Buy American Act--Free Trade Agreements--
        Balance of Payments Program (JAN 2005) (Alternate I) (JAN 2005) (41 U.S.C. 10a-10d and 19 U.S.C. 3301 note). 252.225-7038 Restriction on Acquisition of Air Circuit Breakers (APR 2003) (10 U.S.C. 2534(a)(3)). 252.226-7001 Utilization of Indian Organizations, Indian Organizations,
        Indian-Owned Economic Enterprises, and Native Hawaiian Small Business Concerns (SEP 2004) (Section 8021 of Pub. L. 107-248 and similar sections in subsequent DoD
         appropriations acts).
        252.227-7015 Technical Data--Commercial Items (NOV 1995)
      (10 U.S.C. 2320).

252.227-7037 Validation of Restrictive Markings on

Technical Data (SEP 1999) (10 U.S.C. 2321).
        252.232-7003 Electronic Submission of Payment Requests (JAN 2004) (10 U.S.C. 2227)
252.243-7002 Requests for Equitable Adjustment (MAR 1998) (10 U.S.C. 2410).
        252.247-7023 Transportation of Supplies by Sea (MAY 2002) ( Alternate I) (MAR 2000) ( Alternate II) (MAR 2000) (Alternate III) (MAY 2002) (10 U.S.C. 2631).
        252.247-7024 Notification of Transportation of Supplies by Sea (MAR 2000) (10 U.S.C. 2631).
     (c) In addition to the clauses listed in paragraph (e) of
the Contract Terms and Conditions Required to Implement
Statutes or Executive Orders -- Commercial Items clause of this
contract (FAR 52.212-5), the Contractor shall include the terms of the following clauses, if applicable, in subcontracts for
commercial items or commercial components, awarded at any tier under this contract:
     252.225-7014 Preference for Domestic Specialty Metals, Alternate I (APR 2003) (10 U.S.C. 2533a).
     252.247-7023 Transportation of Supplies by Sca (MAY 2002)
(10 U.S.C. 2631)
     252.247-7024 Notification of Transportation of Supplies
                            by Sea (MAR 2000) (10 U.S.C. 2631).
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52.212-1 INSTRUCTIONS TO OFFERORS--COMMERCIAL ITEMS (JAN 2005)

- (a) North American Industry Classification System (NAICS) code and small business size standard. The NAICS code and small business size standard for this acquisition appear in Block 10 of the solicitation cover sheet (SF 1449). However, the small business size standard for a concern which submits an offer in its own name, but which proposes to furnish an item which it did not itself manufacture, is 500 employees.
- not itself manufacture, is 500 employees.

  (b) Submission of offers. Submit signed and dated offers to the office specified in this solicitation at or before the exact time specified in this solicitation. Offers may be submitted on the SF 1449, letterhead stationery, or as otherwise specified in the solicitation. As a minimum, offers must show--
  - (1) The solicitation number;(2) The time specified in the solicitation for receipt
- of offers;
  (3) The name, address, and telephone number of the
- offeror,

  (4) A technical description of the items being offered in sufficient detail to evaluate compliance with the requirements in the solicitation. This may include product literature, or other documents if processary.
- other documents, if necessary;
  (5) Terms of any express warranty;
  (6) Price and any discount terms;
- (7) "Remit to" address, if different than mailing
- address;
  (8) A completed copy of the representations and certifications at FAR 52.212-3 (see FAR 52.212-3(j) for those representations and certifications that the offeror shall complete electronically);
- (9) Acknowledgment of Solicitation Amendments;
  (10) Past performance information, when included as an
  evaluation factor, to include recent and relevant contracts for
  the same or similar items and other references (including
  contract numbers, points of contact with telephone numbers and
  other relevant information); and
- (11) If the offer is not submitted on the SF 1449, include a statement specifying the extent of agreement with all terms, conditions, and provisions included in the solicitation. Offers that fail to furnish required representations or information, or reject the terms and conditions of the solicitation may be excluded from consideration.
- excluded from consideration.

  (c) Period for acceptance of offers. The offeror agrees to hold the prices in its offer firm for 30 calendar days from the date specified for receipt of offers, unless another time period is specified in an addendum to the solicitation.
- (d) Product samples. When required by the solicitation, product samples shall be submitted at or prior to the time specified for receipt of offers. Unless otherwise specified in this solicitation, these samples shall be submitted at no expense to the Government, and returned at the sender's request and expense, unless they are destroyed during preaward testing.
- (e) Multiple offers. Offerors are encouraged to submit multiple offers presenting alternative terms and conditions or commercial items for satisfying the requirements of this solicitation. Each offer submitted will be evaluated separately.
- (f) Late submissions, modifications, revisions, and withdrawals of offers. (1) Offerors are responsible for submitting offers, and any modifications, revisions, or withdrawals, so as to reach the Government office designated in the solicitation by the time specified in the solicitation. If no time is specified in the solicitation, the time for

receipt is  $4:30~\mathrm{p.m.}$ , local time, for the designated Government office on the date that offers or revisions are due.

(2)(i) Any offer, modification, revision, or withdrawal of an offer received at the Government office designated in the solicitation after the exact time specified for receipt of offers is "late" and will not be considered unless it is received before award is made, the Contracting Officer determines that accepting the late offer would not unduly delay the acquisition; and--

(A) If it was transmitted through an electronic commerce method authorized by the solicitation, it was received at the initial point of entry to the Government infrastructure not later than 5:00 p.m. one working day prior to the date specified for receipt of offers; or

(B) There is acceptable evidence to establish that it

(B) There is acceptable evidence to establish that it was received at the Government installation designated for receipt of offers and was under the Government's control prior to the time set for receipt of offers; or

(C) If this solicitation is a request for proposals,

it was the only proposal received.

(ii) However, a late modification of an otherwise successful offer, that makes its terms more favorable to the Government, will be considered at any time it is received and may be accepted.

(3) Acceptable evidence to establish the time of receipt at the Government installation includes the time/date stamp of that installation on the offer wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel

testimony or statements of Government personnel.

(4) If an emergency or unanticipated event interrupts normal Government processes so that offers cannot be received at the Government office designated for receipt of offers by the exact time specified in the solicitation, and urgent Government requirements preclude amendment of the solicitation or other notice of an extension of the closing date, the time specified for receipt of offers will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal Government processes resume.

- (5) Offers may be withdrawn by written notice received at any time before the exact time set for receipt of offers. Oral offers in response to oral solicitations may be withdrawn orally. If the solicitation authorizes facsimile offers, offers may be withdrawn via facsimile received at any time before the exact time set for receipt of offers, subject to the conditions specified in the solicitation concerning facsimile offers. An offer may be withdrawn in person by an offeror or its authorized representative if, before the exact time set for receipt of offers, the identity of the person requesting withdrawal is established and the person signs a receipt for the offer.
- (g) Contract award (not applicable to Invitation for Bids). The Government intends to evaluate offers and award a contract without discussions with offerors. Therefore, the offeror's initial offer should contain the offeror's best terms from a price and technical standpoint. However, the Government reserves the right to conduct discussions if later determined by the Contracting Officer to be necessary. The Government may reject any or all offers if such action is in the public interest; accept other than the lowest offer; and waive informalities and minor irregularities in offers received

informalities and minor irregularities in offers received.

(h) Multiple awards. The Government may accept any item or group of items of an offer, unless the offeror qualifies the offer by specific limitations. Unless otherwise provided in

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the Schedule, offers may not be submitted for quantities less than those specified. The Government reserves the right to make an award on any item for a quantity less than the quantity offered, at the unit prices offered, unless the offeror specifies otherwise in the offer.

(i) Availability of requirements documents cited in the califications (1) (i) The GOA Index of Federal Specifications

solicitation. (1)(i) The GSA Index of Federal Specifications, Standards and Commercial Item Descriptions, FPMR Part 101-29, and copies of specifications, standards, and commercial item descriptions cited in this solicitation may be obtained for a fee by submitting a request to--

> GSA Federal Supply Service Specifications Section Suite 8100 470 East L'Enfant Plaza, SW Washington, DC 20407

Telephone (202) 619-8925 Facsimile (202) 619-8978.

(ii) If the General Services Administration, Department of Agriculture, or Department of Veterans Affairs issued this solicitation, a single copy of specifications, standards, and commercial item descriptions cited in this solicitation may be obtained free of charge by submitting a request to the addressee in paragraph (i)(1)(i) of this provision. Additional copies will be issued for a fee.

(2) The DoD Index of Specifications and Standards
(DoDISS) and documents listed in it may be obtained from the--

Department of Defense Single Stock Point (DoDSSP) Building 4, Section D 700 Robbins Avenue Philadelphia, PA 19111-5094

Telephone (215) 697-2667/2179 Facsimile (215) 697-1462.

(i) Automatic distribution may be obtained on a subscription basis.

(ii) Order forms, pricing information, and customer support information may be obtained-
(A) By telephone at (215) 697-2667/2179; or

(B) Through the DoDSSP Internet site at

http://dodssp.daps.mil.

(3) Nongovernment (voluntary) standards must be obtained from the organization responsible for their preparation,

publication, or maintenance.

(j) Data Universal Numbering System (DUNS) Number. (Applies to all offers exceeding \$25,000, and offers of \$25,000 or less if the solicitation requires the Contractor to be registered in the Central Contractor Registration (CCR) database. The offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation "DUNS" or "DUNS +4" followed by the DUNS or DUNS +4 number that identifies the offeror's name and address. The DUNS +4 is the DUNS number plus offeror's name and address. The DUNS +4 is the DUNS number plus a 4-character suffix that may be assigned at the discretion of the offeror to establish additional CCR records for identifying alternative Electronic Funds Transfer (EFT) accounts (see FAR Subpart 32.11) for the same parent concern. If the offeror does not have a DUNS number, it should contact Dun and Bradstreet directly to obtain one. An offeror within the United States may contact Dun and Bradstreet by calling 1-866-705-5711 or via the

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internet at http://www.dnb.com. An offeror located outside the United States must contact the local Dun and Bradstreet office

for a DUNS number.

- (k) Central Contractor Registration. Unless exempted by an addendum to this solicitation, by submission of an offer, the offeror acknowledges the requirement that a prospective awardee shall be registered in the CCR database prior to award, during performance and through final payment of any contract resulting from this solicitation. If the Offeror does not become registered in the CCR database in the time prescribed by the Contracting Officer, the Contracting Officer will proceed to award to the next otherwise successful registered Offeror. Offerors may obtain information on registration and annual confirmation requirements via the Internet at http://www.ccr.gov or by calling 1-888-227-2423 or 269-961-5757.
- (1) Debriefing. If a post-award debriefing is given to requesting offerors, the Government shall disclose the following information, if applicable:

(1) The agency's evaluation of the significant weak or deficient factors in the debriefed offeror's offer.

(2) The overall evaluated cost or price and technical rating of the successful and the debriefed offeror and past performance information on the debriefed offeror.

(3) The overall ranking of all offerors, when any ranking was developed by the agency during source selection.

(4) A summary of the rationale for award;

(5) For acquisitions of commercial items, the make and model of the item to be delivered by the successful offeror.

(6) Reasonable responses to relevant questions posed by the debriefed offeror as to whether source-selection procedures set forth in the solicitation, applicable regulations, and other applicable authorities were followed by the agency.

#### 52.212-3 OFFEROR REPRESENTATIONS AND CERTIFICATIONS-COMMERCIAL ITEMS (JAN 2005) -- ALTERNATE I (APR 2002)

An offeror shall complete only paragraph (j) of this provision if the offeror has completed the annual representations and certifications electronically at http://orca.bpn.gov. If an offeror has not completed the annual representations and certifications electronically at the ORCA website, the offeror shall complete only paragraphs

(b) through (i) of this provision.

(a) Definitions. As used in this provision:

"Emerging small business" means a small business concern whose size is no greater than 50 percent of the numerical size standard for the NAICS code designated.

"Forced or indentured child labor" means all work or

(1) Exacted from any person under the age of 18 under the menace of any penalty for its nonperformance and for which the worker does not offer himself voluntarily; or

(2) Performed by any person under the age of 18 pursuant to a contract the enforcement of which can be accomplished by process or penalties.

"Service-disabled veteran-owned small business concern"--

(1) Mcans a small business concern-(i) Not less than 51 percent of which is owned by one or more service--disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans

or, in the case of a service-disabled veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

"Small business concern" means a concern, including its

affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR part 121 and size standards in this solicitation.

"Veteran-owned small business concern" means a small

business concern-

(1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and

(2) The management and daily business operations of which

are controlled by one or more veterans.

"Women-owned small business concern" means a small

business concern-(1) That is at least 51 percent owned by one or more women; or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and

(2) Whose management and daily business operations are

controlled by one or more women.

"Women-owned business concern" means a concern which is at least 51 percent owned by one or more women; or in the case of any publicly owned business, at least 51 percent of its stock is owned by one or more women; and whose management and daily business operations are controlled by one or more

(b) Taxpayer Identification Number (TIN) (26 U.S.C. 6109, 31 U.S.C. 7701). (Not applicable if the offeror is required to provide this information to a central contractor registration

database to be eligible for award.)

- (1) All offerors must submit the information required in paragraphs (b)(3) through (b)(5) of this provision to comply with debt collection requirements of 31 U.S.C. 7701(c) and 3325(d), reporting requirements of 26 U.S.C. 6041, 6041A, and 6050M, and implementing regulations issued by the Internal Revenue Service (IRS).
- (2) The TIN may be used by the Government to collect and report on any delinquent amounts arising out of the offeror's relationship with the Government (31 U.S.C. 7701(c)(3)). If the resulting contract is subject to the payment reporting requirements described in FAR 4.904, the TIN provided hereunder may be matched with IRS records to verify the accuracy of the offeror's TIN.
  - (3) Taxpayer Identification Number (TIN).

TIN: TIN has been applied for. TIN is not required because:

[ ] Offeror is a nonresident alien, foreign corporation, or foreign partnership that does not have income effectively connected with the conduct of a trade or business in the United States and does not have an office or place of business or a fiscal paying agent in the United States;

[] Offeror is an agency or instrumentality of a foreign government;

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[ ] Offeror is an agency or instrumentality of the
Federal Government.
         (4) Type of organization.
                ] Sole proprietorship;
                   Partnership;
                   Corporate entity (not tax-exempt);
               Corporate entity (tax-exempt);

Government entity (Federal, State, or local);
                ] Foreign government;
                    International organization per 26 CFR 1.6049-4;
              [ ] Other
          (5) Common parent.
                 Offeror is not owned or controlled by a common parent;
              [ ] Name and TIN of common parent:
                    TIN
(c) Offerors must complete the following representations when the resulting contract will be performed in the United States or its outlying areas. Check all that apply.
     (1) Small business concern. The offeror represents as part its offer that it [] is, [] is not a small business concern. (2) Veteran-owned small business concern. [Complete only if
the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.] The offeror represents as part of its offer that it [ ] is, [ ] is not a veteran-owned
small business concern.
          (3) Service-disabled veteran-owned small business concern.
 [Complete only if the offeror represented itself as a veteran-
owned small business concern in paragraph (c)(2) of this provision. The offeror represents as part of its offer that it [ ] is, [ ] is not a service-disabled veteran-owned small business concern.
          (4) Small disadvantaged business concern. [Complete only if
the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.] The offeror represents, for general statistical purposes, that it [] is, [] is not a small disadvantaged business concern as defined in 13 CFR 124.1002.
(5) Women-owned small business concern. [Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.] The offeror represents that it [] is,
[] is not a women-owned small business concern. Note: Complete paragraphs (c)(6) and (c)(7) only if this solicitation is expected to exceed the simplified acquisition threshold.
          (6) Women-owned business concern (other than small business
concern). [Complete only if the offeror is a women-owned business
concern and did not represent itself as a small business concern in paragraph (c)(1) of this provision.] The offeror represents that
it [] is a women-owned business concern.

(7) Tie bid priority for labor surplus area concerns. If this is an invitation for bid, small business offerors may
identify the labor surplus areas in which costs to be incurred on account of manufacturing or production (by offeror or first-tier subcontractors) amount to more than 50 percent of
the contract price:
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<sup>(8)</sup> Small Business Size for the Small Business Competitiveness Demonstration Program and for the Targeted Industry Categories under the Small Business Competitiveness Demonstration Program. [Complete only if the offeror has represented itself to be a small business concern under the size standards for this solicitation.]

(i) (Complete only for solicitations indicated in an addendum as being set-aside for emerging small businesses in one of the four designated industry groups (DIGs).) The offeror represents as part of its offer that it [] is,

[] is not an emerging small business.

(ii) (Complete only for solicitations indicated in an addendum as being for one of the targeted industry categories (TICs) or four designated industry groups (DTGs).) Offeror represents as follows:

(A) Offeror's number of employees for the past 12 months (check the Employees column if size standard stated in the solicitation is expressed in terms of number of employees); or

employees); or

(B) Offeror's average annual gross revenue for the last 3 fiscal years (check the Average Annual Gross Number of Revenues column if size standard stated in the solicitation is expressed in terms of annual receipts).

(Check one of the following):

Number of Employees	Average Annual Gross Revenues
50 or fewer	\$1 million or less
51100	\$1,000,001\$2 million
101250	\$2,000,001\$3.5 million
251500	\$3,500,001\$5 million
501750	\$5,000,001\$10 million
7511,000	\$10,000,001\$17 million
Over 1,000	Over \$17 million

(9) (Complete only if the solicitation contains the clause at FAR 52.219-23, Notice of Price Evaluation Adjustment for Small Disadvantaged Business Concerns, or FAR 52.219-25, Small Disadvantaged Business Participation Program--Disadvantaged Status and Reporting, and the offeror desires a benefit based on its disadvantaged status.)

on its disadvantaged status.)

(i) General. The offeror represents that either-
(A) It [] is, [] is not certified by the Small
Business Administration as a small disadvantaged business
concern and identified, on the date of this representation, as
a certified small disadvantaged business concern in the database
maintained by the Small Business Administration (PRO-Net), and
that no material change in disadvantaged ownership and control
has occurred since its certification, and, where the concern is
owned by one or more individuals claiming disadvantaged status,
the net worth of each individual upon whom the certification is
based does not exceed \$750,000 after taking into account the
applicable exclusions set forth at 13 CFR 124.104(c)(2); or

(B) It [] has, [] has not submitted a completed
application to the Small Business Administration or a Private
Certifier to be certified as a complete designer.

(B) It [ ] has, [ ] has not submitted a completed application to the Small Business Administration or a Private Certifier to be certified as a small disadvantaged business concern in accordance with 13 CFR 124, Subpart B, and a decision on that application is pending, and that no material change in disadvantaged ownership and control has occurred

since its application was submitted.

(ii) [] Joint Ventures under the Price Evaluation
Adjustment for Small Disadvantaged Business Concerns. The
offeror represents, as part of its offer, that it is a joint
venture that complies with the requirements in 13 CFR 124.
1002(f) and that the representation in paragraph (c) (9) (i)
of this provision is accurate for the small disadvantaged
business concern that is participating in the joint venture.
[The offeror shall enter the name of the small disadvantaged

business concern that is participating in the joint

(10) HUBZone small business concern. [Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.] The offeror represents, as part of its offer, that-

(i) It [] is, [] is not a HUBZone small business concern listed, on the date of this representation, on the List of Qualified HUBZone Small Business Concerns maintained by

List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration, and no material change in ownership and control, principal office, or HUBZone employee percentage has occurred since it was certified by the Small Business Administration in accordance with 13 CFR part 126; and (ii) It [] is, [] is not a joint venture that complies with the requirements of 13 CFR part 126, and the representation in paragraph (c)(10)(i) of this provision is accurate for the HUBZone small business concern or concerns that are participating in the joint venture. [The offeror shall enter the name or names of the HUBZone small business concern or concerns that are of the HUBZone small business concern or concerns that are participating in the joint venture:

.] Each HUBZone small business concern participating in the joint venture shall submit a separate signed copy of the HUBZone representation.

(11) (Complete if the offeror has represented itself as

disadvantaged in paragraph (c) (4) or (c) (9) of this provision.) The offeror shall check the category in which its ownership falls:

Black American.

\_\_ Hispanic American.

Native American (American Indians, Eskimos, Aleuts,

or Native Hawaiians) Asian-Pacific American (persons with origins from Burma, Thailand, Malaysia, Indonesia, Singapore, Brunei, Japan, China, Taiwan, Laos, Cambodia (Kampuchea), Vietnam, Korea, The Philippines, U.S. Trust Territory or the Pacific Islands (Republic of Palau), Republic of the Marshall Islands, Federated States of Micronesia, the Commonwealth of the Northern Mariana Islands, Guam, Samoa, Macao, Hong Kong, Fiji, Tonga, Kiribati,

Tuvalu, or Nauru).

Subcontinent Asian (Asian-Indian) American (persons with origins from India, Pakistan, Bangladesh, Sri Lanka, Bhutan, the Maldives Islands, or Nepal).

Individual/concern, other than one of the preceding.

(11) HUBZone small business concern. [Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.] The offeror represents as

part of its offer that
(i) It [] is, [] is not a HUBZone small business
concern listed, on the date of this representation, on the List concern listed, on the date of this representation, on the List of Qualified HUBZone Small Business Concerns Maintained by the Small Business Administration, and no material change in ownership and control, principal place of ownership, or HUBZone employee percentage has occurred since it was certified by the Small Business Administration in accordance with 13 CFR part 126; and

(ii) It [] is, [] is not a joint venture that complies with the requirements of 13 CFR part 126, and the representation in paragraph (c)(11)(i) of this provision is accurate for the HUBZone small business concern or concerns that are participating on the joint venture. [The offeror shall enter the name or names of the HUBZone small business concern or concerns that venture shall submit a separate signed copy of the HUBZone

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representation.

(d) Representations required to implement provisions of Executive Order 11246 --

(1) Previous contracts and compliance. The offeror

represents that-(i) It [] has, [] has not participated in a previous contract or subcontract subject to the Equal Opportunity clause of this solicitation; and

(ii) It [] has, [] has not filed all required compliance

reports.

(2) Affirmative Action Compliance. The offeror represents

(i) It [] has developed and has on file, [] has no developed and does not have on file, at each establishment, [ ] has not affirmative action programs required by rules and regulations of the Secretary of Labor (41 CFR parts 60-1 and 60-2), or

(ii) It [] has not previously had contracts subject to the written affirmative action programs requirement of the rules

and regulations of the Secretary of Labor.

(e) Certification Regarding Payments to Influence Federal Transactions (31 U.S.C. 1352). (Applies only if the contract is expected to exceed \$100,000.) By submission of its offer, the offeror certifies to the best of its knowledge and belief that no Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an office. any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress or an employee of a Member of Congress on his or her behalf in connection with the award of any resultant contract.

(f) Buy American Act Certificate. (Applies only if the clause at Federal Acquisition Regulation (FAR) 52.225-1, Buy American Act--Supplies, is included in this solicitation.)

- (1) The offeror certifies that each end product, except those listed in paragraph (f)(2) of this provision, is a domestic end product and that the offeror has considered components of unknown origin to have been mined, produced, or manufactured outside the United States. The offeror shall list as foreign end products those end products manufactured in the United States that do not qualify as domestic end products. The terms "component," "domestic end product," "end product," "foreign end product," and "United States" are defined in the clause of this solicitation entitled "Buy American Act--Supplies."
  - (2) Foreign End Products:

Line Item No		Country	of Origin
	(List as neces	ssary)	

(3) The Government will evaluate offers in accordance with

(3) The Government will evaluate offers in accordance with the policies and procedures of FAR Part 25.

(g) (1) Buy American Act--Free Trade Agreements--Israeli Trade Act Program Certificate. (Applies only if the clause at FAR 52.225-3, Buy American Act--Free Trade Agreements--Israeli Trade Act, is included in this solicitation.)

(i) The offeror certifies that each end product, except those listed in paragraph (g) (1) (ii) or (g) (1) (iii) of this provision, is a domestic end product and that the offeror has considered components of unknown origin to have been mined produced or

components of unknown origin to have been mined, produced, or manufactured outside the United States. The terms "component," "domestic end product," "end product," "foreign end product," and "United States" are defined in the clause of this solicitation

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entitled "Buy American Act -- Free Trade Agreements -- Israeli

(ii) The offeror certifies that the following supplies are end products of Australia, Canada, Chile, Mexico, or Singapore, or Israeli end products as defined in the clause of this solicitation entitled "Buy American Act--Free Trade Agreements--Israeli Trade Act":

	End Products of Australi sraeli End Products:	a, Canada, Chile, Mexico, or Singapore
	Line Item No	Country of Origin
	(List	as necessary)
end pathis entit Act.' end pas do	products (other than tho provision) as defined i tled "Buy American Act " The offeror shall lis products manufactured in omestic end products.	list those supplies that are foreign se listed in paragraph (g)(1)(ii) of n the clause of this solicitation Free Trade AgreementsIsraeli Trade t as other foreign end products those the United States that do not qualify
Other	r Forcign End Products:	
	Line Item No	Country of Origin
	(List	as necessary)
the P Cert: at F	policies and procedures (2) Buy American ActFr ificate, Alternate I (Ja AR 52.225-3 is included	evaluate offers in accordance with of FAR Part 25. Tee Trade AgreementsIsraeli Trade Act in 2004). If Alternate I to the clause in this solicitation, substitute the i) for paragraph (g)(1)(ii) of the

Israeli Trade Act": Canadian End Products:

Line Item No. (List as necessary)

basic provision:

(g)(1)(ii) The offeror certifies that the following supplies are Canadian end products as defined in the clause of this solicitation entitled "Buy American Act--Free Trade Agreements--

(3) Buy American Act--Free Trade Agreements--Israeli Trade (3) Buy American Act--Free Trade Agreements--Israeli Trade Act Certificate, Alternate II (Jan 2004). If Alternate II to the clause at FAR 52.225-3 is included in this solicitation, substitute the following paragraph (g)(1)(ii) for paragraph (g)(1)(ii) of the basic provision:

(g)(1)(ii) The offeror certifies that the following supplies are Canadian end products or Israeli end products as defined in the clause of this solicitation entitled "Buy American Act--Free Trade Agreements--Israeli Trade Act":

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**VENDOR:** 

Canadian d	or Israeli End Products:	
	Line Item No	Country of Origin
	(List as necessar	- TV)
(1) =		
at FAR 52 solicitat:     (i) Ti listed in or designathis solic     (ii) products	he offeror certifies that each paragraph (g)(4)(ii) of this pated country end product, as decitation entitled "Trade Agreem The offeror shall list as other that are not U.Smade or designation.	end product, except those provision, is a U.Smade efined in the clause of ments."  r end products those end
Other End	Products:	
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by the WTOOR design. Of design. Of the Bur Offers of Contracting products of fulfill to the bility for contract threshold and belie (1) proposed contracts (2) preceding rendered offense in performing subcontract relating ment, the records, stolen produced in the company of th	ies and procedures of FAR Part O GPA, the Government will evaluated country end products without American Act. The Government U.Smade or designated country of the solicitation of the solicitation requirements of the solicitation regarding Debarment and Executive Order 12549) value is expected to exceed the solicitation of the offeror certifies, to the solicitation of the solicitation regarding Debarment and the offeror certifies, to the solicitation of the solicitation that as the solicitation that as the solicitation that as the solicitation that as the sequiring Contractor Certification that as	luate offers of U.Smade but regard to the restrictions will consider for award only ry end products unless the re are no offers for such oducts are insufficient to ation.  t. Suspension or Ineligi- ). (Applies only if the esimplified acquisition the best of its knowledge of its principalsdebarred, suspended, ligible for the award of a three-year period or had a civil judgment f fraud or a criminal thempting to obtain, or vernment contract or atte antitrust statutes r commission of embezzleation or destruction of vasion, or receiving  indicted for, or by a Government entity es.  e of Child Labor for 126). [The Contracting ny end products being re included in the List ication as to Forced or

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**VENDOR:** 

Listed End Product

Listed Countries of Origin

(2) Certification. [If the Contracting Officer has identi-(2) Certification. [If the Contracting Officer has identified end products and countries of origin in paragraph (i) (1) of this provision, then the offeror must certify to either (i)(2)(i) or (i)(2)(ii) by checking the appropriate block.]

[] (i) The offeror will not supply any end product listed in paragraph (i)(1) of this provision that was mined, produced, or manufactured in the corresponding country as listed for that product.

[] (ii) The offeror may supply an end product listed in paragraph (i)(1) of this provision that was mined, produced, or manufactured in the corresponding country as listed for that product. The offeror certifies that it has made a good faith

product. The offeror certifies that it has made a good faith effort to determine whether forced or indentured child labor was used to mine, produce, or manufacture any such end product furnished under this contract. On the basis of those efforts, the offeror certifies that it is not aware of any such use of child labor.

(j) (1) Annual Representations and Certifications. Any changes provided by the offeror in paragraph (j) of this provision do not automatically change the representations and certifications posted on the Online Representations and Certifications

Application (ORCA) website.

(2) The offeror has completed the annual representations and certifications electronically via the ORCA website at http://orca.bpn.gov. After reviewing the ORCA database information, the offeror verifies by submission of the offer that the representations and certifications currently posted electronically at FAR 52.212-3, Offeror Representations and Certifications--Commercial Items, have been entered or updated in the last 12 months, are current, accurate, complete, and applicable to this solicitation (including the business size standard applicable to the NAICS code referenced for this solicitation), as of the date of this offer and are incorporated in this offer by reference

(see FAR 4.1201), except for paragraphs
[Offeror to identify the applicable paragraphs at (b) through
(i) of this provision that the offeror has completed for the
purposes of this solicitation only, if any.
These amended representation(s) and/or certification(s) are
also incorporated in this offer and are current, accurate, and
complete as of the date of this offer.

Any changes provided by the offeror are applicable to this

Any changes provided by the offeror are applicable to this solicitation only, and do not result in an update to the representations and certifications posted on ORCA.]

(End of provision)

Your quotation must include the following information:

Price list number and date

or

**VENDOR:** 

Cost breakdown by direct labor (list categories, hours and pay rates). In addition to the direct rates, provide the applicable indirect information (G&A), overhead, facilities capital cost of money (FCCM) and profit.

 $\bigcirc$ 

Applicable General Services Administration (GSA) contract number.

If unable to quote FOB, Destination, please complete the following:

FOB Point

Estimated Shipping Charge

Business size:

Large \_\_\_\_ Small \_\_\_\_ Nonprofit

Cage Code \_\_\_\_

Tax Identification Number (TIN) \_\_\_\_

#### ELIGIBILITY REQUIREMENTS

DUNNS

# ELECTRONIC DISTRIBUTION OF CONTRACT DOCUMENTS

All contract award and contract modification documents will be distributed electronically using the Navy Air Force Interface (NAFI) system. The contractor's copy will be provided in portable document format (pdf) as an attachment to an e-mail that will be sent to the contractor by the NAFI system. A pdf file may be accessed using Adobe Acrobat Reader software. This is a free software that may be downloaded at:

http://www.adobe.com/products/acrobat/readstep.html

Provide the following information that will be used to make electronic distribution for any resultant contract:  $\frac{1}{2} \int_{-\infty}^{\infty} \frac{1}{2} \left( \frac{1}{2} \int_{$ 

Name of Point of Contact to Receive Distribution	
Phone Number for Point of Contact	
E-Mail Address for Receipt of Distribution	

# CONTINUATION SHEET

DOC.	NO. N65540-05-Q-0151		PAGE	NO.	28	OF 28
	VENDOR:					
	USE OF THE GOVERNMENTWIDE COMMERCIAL PURCHASE Will you accept the Governmentwide Commercas a method of purchasing supplies and/or se	cial Purchase (	Card			
	Yes No	>				
	Will you accept the Governmentwide Commercas a method of payment for your invoice.	cial Purchase (	Card			
	YesN	0				
	DUTY FREE ENTRY					
	Will any materials being shipped to the G duty-free entry certificate for foreign supp	overnment requi	ire a			
	YesN	0				
	If yes, please include dollar amount \$					

# TECHNICAL EVALUATION CRITERIA

The offeror shall furnish information that demonstrates the TVSS it proposes to furnish will comply with all the requirements set forth in the Specification. The technical proposal for the TVSS shall address in detail the following factors in order to be evaluated.

- 1. TVSS Design & Performance
  The offeror must submit detail information in the design and manufacture of the TVSS it intends to furnish that will comply with the requirements contained in the TVSS Specification. In particular, the offeror must furnish information that demonstrates the TVSS capabilities will satisfy the applicable specification requirements and what type and model TVSS will be provided.
- 2. Corporate Experience
  The offeror shall provide information on its experience with the manufacture of TVSS for either commercial or military use. It shall also furnish information on the equipment, facilities, and other production resources it possesses that it will use during the performance under any resulting contract.
- 3. Past Performance:
  In this factor an offeror shall provide information on its performance record. To comply with this requirement, offerors shall furnish the following information on at least three prior Federal, State and local government or commercial contracts completed within the past three years: Name of customer together with a point of contact and telephone number, contract number, model number of TVSS, description of the supplies furnished, total dollar value, delivery date, and a brief summary of the offeror's performance, including any problems encountered and their resolution. Each offeror will be evaluated on their performance under existing and prior contracts for similar products and service. Experience information will be used for both responsibility determinations and as an evaluation factor.

In order to comply with the above, offerors may provide descriptive literature with Model number and description (such as Technical manuals, brochures, installation drawings, etc.) for the TVSS it intends to furnish together with information describing how the existing system will be modified if necessary to meet the specification requirements.

# PERFORMANCE SPECIFICATION TRANSIENT VOLTAGE SURGE SUPPRESSOR (TVSS)

#### 1. SCOPE

1.1 <u>Scope</u>. This performance specification covers the requirements for a transient voltage surge suppressor (TVSS) device used to provide protection from electrical system transients for electrical equipment installed aboard U.S. Navy ships.

# 2. APPLICABLE DOCUMENTS

- 2.1 General. The documents listed in this section are specified in sections 3, 4, or 5 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements of documents cited in sections 3, 4, or 5 of this specification, whether or not they are listed.
  - 2.2 Government documents.
- 2.2.1 <u>Specifications</u>, <u>standards</u>, <u>and handbooks</u>. The following specifications, standards, and handbooks form a part of this document to the extent specified herein.

# FEDERAL STANDARDS

FED-STD-595/26307-12/5/1994-Gray, Semi-Gloss

# DEPARTMENT OF DEFENSE SPECIFICATIONS

MIL-S-901D – 3/17/05 - Shock Tests, H.I. (High-Impact) Shipboard Machinery, Equipment, and Systems, Requirements for

MIL-E-917E – 8/6/1993 - Electric Power Equipment Basic Requirements MIL-DTL-15090 – 11/06/1996 - Enamel, Equipment, Light Gray, (Navy Formula No. 111)

# DEPARTMENT OF DEFENSE STANDARDS

MIL-STD-167-1 – 5/1/1997 including change 6/19/1987 - Mechanical Vibrations of Shipboard Equipment (Type I - Environmental and Type II - Internally Excited)

MIL-STD-461E – 8/20/1999 - Requirements for the Control of Electromagnetic Interference Characteristics of Subsystems and Equipment

MIL-STD-810F – 1/1/2000 including change 5/5/2003 - Environmental Engineering Considerations and Laboratory Tests

MIL-STD-1310G – 6/28/1996 - Standard Practice for Shipboard Bonding, Grounding, and Other Techniques for Electromagnetic Compatibility and Safety

MIL-STD-1399-300A – 10/13/1987 including change 3/11/1992 Interface Standard for Shipboard Systems, Section 300A, Electric Power, Alternating Current (Metric)

DOD-STD-1399-301 – 7/21/1986 - Interface Standard for Shipboard Systems, Section 301A, Ship Motion and Attitude (Metric)

(Copies of these documents are available online at http://astimage.daps.dla.mil/quicksearch/ or www.dodssp.daps.mil or from the Standardization Document Order Desk, 700 Robbins Avenue, Bldg. 4D, Philadelphia, PA 19111-5094.)

2.2.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this docume nt to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

NSTM Chapter 631 - Preservation of Ships in Service

(Copies of this document are available online at http://fas.org/man/dod - 101/navy/docs/index.html or from the Federation of American Scientists 1717 K. Street, NW, Suite 209, Washington DC 20036.)

2.3 <u>Non-Government publications</u>. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

AMERICAN SOCIETY FOR QUALITY (ASQ) ANSI/ISO/ASQ Q9001 -Quality Management Systems - Requirements

(Copies of this document are available online at www.asq.org or from the American Society for Quality, 600 North Plankinton Avenue, Milwaukee, WI 53201-1734.)

#### ASTM INTERNATIONAL

F1507 - Standard Specification for Surge Suppressors for Shipboard Use

(Copies of this document are available online at www.astm.org or from ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.)

# INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

- IEEE 45 IEEE Recommended Practice for Electric Installations on Shipboard
- IEEE C62.41.1 IEEE Guide on the Surge Environment in Low-Voltage (1000 V and less) AC Power Circuits
- IEEE C62.41.2 IEEE Recommended Practice on Characterization of Surges in Low-Voltage (1000 V and less) AC Power Circuits
- IEEE C62.45 IEEE Recommended Practice on Surge Testing for Equipment Connected to Low-Voltage (1000V and Less) AC Power Circuits

(Copies of these documents are available online at www.ieee.org or from the Institute of Electrical and Electronics Engineers, Inc., 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855 -1331.)

### NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION

NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum)

NEMA LS -1 -Low Voltage Surge Protective Devices

(Copies of this document are available online at www.nema.org or from the National Electrical Manufacturers Association, 1300 North 17th Street, Suite 1847, Rosslyn, VA 22209.)

# UNDERWRITERS LABORATORIES, INC. (UL)

UL 94 - Tests for Flammability of Plastic Materials for Parts in Devices and Appliances UL 1449 - Transient Voltage Surge Suppressors

(Copies of these documents are available online at www.ul.comor from the Underwriters Laboratories, Inc., 333 Pfingsten Road, Northbrook, IL 60062 - 2096.)

2.4 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

## 3. REQUIREMENTS

- 3.1 <u>Description</u>. A TVSS device is an electronic device that is added to an electrical circuit to provide protection to the load from transient voltages in the system. This is accomplished by attenuating or reducing, to an acceptable level, the magnitude of electrical distribution system disturbances such as transient voltage levels and noise that may be seen by the load. The TVSS device shall be placed at interfaces between shipboard electrical power distribution systems and individually connected user equipment and distribution panels. The TVSS device shall be suitable for use on existing shipboard and land-based Navy electric power systems.
- 3.2 <u>Electrical characteristics</u>. A TVSS device should be matched by voltage, current and configuration to the electrical environment described in IEEE C62.41.1 and the operational requirements of the equipment being protected.
- 3.2.1 <u>Circuit design</u>. A TVSS device may consist of, but not be limited to, components such as transorbs, insulated gate bipolar transistors (IGBTs), metal oxide varistors (MOVs), silicon avalanche diodes (SADs), gas discharge tubes (GDTs) and passive filter components or any combination thereof as a hybrid. The TVSS device shall be one port, Class B, Type I in accordance with ASTM F1507. Lead lengths of TVSS device es shall be as short as possible in order to ensure optimum operation (see 3.2.9). The design and construction shall be in accordance with MIL-E-917.
- 3.2.2 <u>Circuit configuration</u>. The TVSS device shall be available in either single-phase or three-phase configuration, depending upon application, and is intended to be connected in parallel with the circuit being protected. The three-phase configuration shall be constructed for delta systems with three-phase wires and an equipment (chassis) ground wire, or shall be constructed for wye systems with three-phase wires, a neutral wire, and an equipment ground wire. The single -phase configuration shall be constructed for use on three-phase systems using two -phase wires and an equipment ground wire. The single-phase configuration shall be constructed for use

on three-phase systems, properly rated for a single phase and connected across a single phase using two hot wires and an equipment ground wire ground wire.

3.2.3 <u>Maximum continuous operating voltage (MCOV)</u>. The MCOV for the system voltages shall be as provided in Table I.

TABLE I. MCOV for line to line and line to neutral or ground

1111	JEE 1. Mee v for the to 2	
System	MCOV Line to Line	MCOV Line to Neutral or Ground
115 Vrms	> 150 Vrms	> 150 Vrms
200 Vrms	> 260 Vrms	> 260 Vrms
440 Vrms	> 550 Vrms	> 550 Vrms

- 3.2.4 Minimum peak current per mode. The minimum peak current per mode of the TVSS device shall be 80,000 A. For an ungrounded delta configuration, the modes are defined as AB, AG, BC, BG, CA, and CG. For an ungrounded wye configuration, the modes are defined as AB, AN, AG, BC, BN, BG, CA, CN, CG, and NG.
- 3.2.5 <u>Suppressed voltage ratings</u>. The maximum let-through voltage shall be as shown in Table II for line-to-line (L-L) and line-to-ground (L-G) for a dynamic (power applied) TVSS device, with a 6-inch lead length when subjected to a 6 kV/3 kA Location Category B impulse waveform as defined in IEEE C62.41.2. Impulses shall be applied/measured at positive polarity at 90° voltage phase angle. Let-through voltages are measured from the positive peak of the sine wave to the positive peak of the surge. The maximum allowable UL 1449 supressed voltage ratings shall be as provided in Table II.

TABLE II. Maximum allowable UL 1449 supressed voltage ratings.

System Voltage		Oelta System ounded)	3 Phase WYE System (ungrounded)				
L-L	L-L	L-G	L-L	L-N	L-G		
115 Vrms	500 V	500 V	500 V	500 V	500 V		
200 Vrms	900V	900 V	900 V	900 V	900 V		
440 Vrms	1500 V	1500 V	1500 V	1500 V	1500 V		

3.2.6 Maximum let-through voltage ratings. The maximum let-through voltage shall be as shown in Table III for line-to-line (L-L) and line-to-ground (L-G), with a 6-inch lead length when subjected to a 6 kV/3 kA Location Category B impulse waveform as defined in IEEE C62.11.2. The oscilloscope used shall have a minimum bandwidth of 100 MHz and an input impedance of 1 M Ohm, capable of displaying the TVSS device entire response. Impulses shall be applied/measured at positive polarity at 90° voltage phase angle. Let-through voltages shall be measured from the positive peak of the sine wave to the positive peak of the surge. The maximum let -through voltage shall be as provided in Table III.

TABLE III. Maximum let-through voltage.

System Voltage	Let-Through Voltage	
	L_L	L-G
115 Vrms	675 V	675 V
200 Vrms	675 V	675 V
440 Vrms	1750 V	1750 V

- 3.2.7 <u>Input power frequency</u>. The TVSS device shall be fully operational within a power frequency range from 50 to 420 Hz.
- $3.2.8 \, \underline{\text{Response time}}$  . The TVSS device shall have a response time of less than 50 nanoseconds.
- 3.2.9 <u>Protection modes</u>. Protection shall be provided using directly-connected elements for all modes. For an ungrounded wye configuration, the TVSS device shall provide L-L, L-N, and L-G directly-connected protection elements for all phases, including N-G. For an ungrounded delta configuration, the TVSS device shall provide L-L and L-G directly-connected protection elements for all phases. This specification acknowledges TVSS using 'derived neutral' architecture, provided that L-L and L-N directly-connected protection elements are used for all phases, including N-G.
- 3.2.10 <u>Circuit protection</u>. The TVSS device shall be listed to have a short circuit current rating (SCCR) equal, or greater, than the prospective short circuit fault current available at the location where it is intended to be installed. Any "conditions of use" by which this SCCR has been listed (such as the inclusion of series fuses or circuit breakers) shall be adhered to. Each line connection from the distribution system phase conductor to the TVSS device shall be fused and properly coordinated to disconnect the TVSS device from the distribution system in the event of a TVSS failure. Individual fuses, such as VSP type surge suppressor protection fuses, one per phase, internal to the TVSS enclosure, shall be sized to protect the feeder cable. Appropriate feeder cable such LSFSGU-9, not to exceed 18 inches in length with characteristics in accordance with 3.2.5, shall be used.
- 3.2.11 <u>Status indication</u>. The TVSS device shall pro vide a visual indication of power available and open fuses as described further. When power is applied, the TVSS device shall provide a power available visual indication. If a TVSS device line fuse opens, or input power is removed, the power available light shall extinguish. Status indicator voltages shall be less than or equal to 50 V. LEDs, neon lights, other lamps, etc., energized at line voltage are specifically not allowed.
- 3.2.12 <u>Grounding</u>. The TVSS device enclosure shall be connected to the ship's ground, providing an equipment ground in accordance with MIL-STD-1310.
- 3.2.13 <u>Electromagnetic compatibility.</u> The TVSS device shall comply with the EMC requirements of MIL-STD-461.

- 3.3 Mechanical characteristics.
- 3.3.1 Enclosure requirements. The TVSS device components shall be mounted in a NEMA 4 hinged enclosure with a seamless weld in accordance with NEMA 250 and the mounting shall meet the requirements of IEEE STD 45. The overall size of the enclosure shall be minimized to meet application requirements.
- 3.3.2 <u>Component mounting</u>. No components other than indicator lights shall be mounted external to the enclosure.
- 3.3.3 <u>Construction</u>. The TVSS device enclosure shall be robust in order to withstand a shipboard environment. Vibration or resilient mounts may be utilized to ensure the device components and enclosure will operate satisfactorily when tested to the shock and vibration requirements of MIL-S-901 and MIL-STD-167-1. Wire connections, terminal strips, and other device components shall not crack or become dislodged during testing. When specified, non-magnetic enclosures are allowable for minesweep ships.
- 3.3.4 <u>Dimensions and weight</u>. Due to the space restrictions aboard the ship, the overall size of the enclosure shall be minimized; and in no case shall the enclosure be larger than 30 cm (12 in) in height by 30 cm (12 in) in width by 30 cm (12 in) in depth, inclusive of all mounting hardware. The TVSS device shall weigh less than 40 pounds.
- 3.3.5 <u>Painting</u>. The TVSS device enclosure shall be painted machinery gray, in accordance with FED -STD-595/26307. The paint scheme selected by the manufacturer shall be compatible with shipboard maintenance practices as detailed in NSTM Chapter 631 and for use with Navy formula no.111 as formulated in accordance with MIL-DTL-15090. The manufacturer may select any coating scheme that matches color 26307 and is compatible with the maintenance practices in NSTM Chapter 631 and the shipboard use of Navy paint formula no. 111.
- 3.3.6 <u>Recycled, recovered, or environmentally preferable materials</u>. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs.

3.3.7 Identification plates. The TVSS device shall be identified with a label plate
hat shall include the following information:
a. Manufacturer's name, address, and phone number
☐.b. Model and serial number
□.c. No minal operating voltage and frequency
☐.d. Maximum continuous operating voltage
☐.e. Short circuit current rating
□.f. Maximum surge current in kA for an 8/20 microsecond waveshape
□.g. Intended power system configuration
□.h. Underwriters Laboratories listing data
□.i. Installation instructions

- $\Box$ .j. Warranty information It is understood that more than one label may be utilized to provide all information specified above.
- 3.3.8 Workmanship. The contractor and all facilities involved in the production of the TVSS devices shall be certified as operating a quality organization in accordance with ANSI/ISO/ASQ Q9001.
- 3.3.9 Encapsulant. Any epoxy or encapsulant shall meet the requirements of UL 94 for reduced flammability. Additionally, the Hazardous Materials Information System (HMIS) value of the cured encapsulant shall be zero.
  - 3.4 Environmental conditions.
- 3.4.1 <u>Location</u>. The TVSS device shall be installed in a sheltered location aboard the ship; as such, the device will be protected from the external environment. The sheltered environment may be either controlled or uncontrolled.
- 3.4.2 <u>Ambient temperature</u>. The TVSS device shall withstand storage temperatures of -25 to 70  $^{\circ}$ C (-13 to 158  $^{\circ}$ F) and ambient operating temperatures of -25 to 70  $^{\circ}$ C (-13 to 158  $^{\circ}$ F) without any derating of the device.
- 3.4.3 <u>Relative humidity</u>. The TVSS device shall operate in a relative humidity of 0 to 100 percent (noncondensing).
- 3.4.4 <u>Corrosion</u>. The TVSS device shall be corrosion-resistant in the marine environment in accordance with NEMA 250.
  - 3.4.5 Inclination. The TVSS device shall operate at any inclination.
- 3.4.6 Ship motion and attitude. The TVSS device shall be fully operational for the ship motion and attitude conditions set forth in DOD-STD-1399-301A.
- 3.4.7 <u>Shock</u>. The TVSS device shall be classified as Grade A, Type 1 in accordance with MIL-S-901. It shall withstand the shock loads as specified in MIL-S-901. No portion of the device or enclosure shall break or cause a hazard to personnel.
- 3.4.8 <u>Vibration</u>. The TVSS device shall be in accordance with the Type I vibration requirements of MIL-STD-167-1.
  - 3.5 Operation.
- 3.5.1 <u>Service life</u>. The design service life of the TVSS device for the specified operating environment shall be a minimum of 20 years.
- 3.5.2 Duty cycle. The TVSS device shall be capable of continuous operation (24 hours a day, 7 days a week).

- 3.5.3 Status. Proper operation of the TVSS device shall be determined by self-diagnosis and indicated by a device that is externally observable (e.g.: light-emitting diode or indicator lamp).
- 3.5.4 <u>Failure</u>. In the event of internal failure, the TVSS device shall provide an external visible indication of such failure.
  - 3.6 Reliability/maintenance.
- 3.6.1 <u>Reliability</u>. The TVSS device shall have a minimum life expectancy of 20 years.
  - 3.6.2 Maintenance. The TVSS device shall require no preventive maintenance.
- 3.7 First article. When specified (sec 6.2), a TVSS device shall be subjected to first article inspection in accordance with 4.2.
- 3.8 Performance characteristics. The TVSS device shall conform to the requirements of ASTM F1507, and shall be listed by Underwriters Laboratories, Inc. under UL 1449.

#### 4. VERIFICATION

- 4.1 <u>Classification of inspections</u>. The inspection requirements specified herein are classified as follows:
  - $\square$ .a. First article inspection (see 4.2).
  - $\Box$ .b. Conformance inspection (see 4.3).
- 4.2 <u>First article inspection</u>. A first article inspection shall be performed on one of each model/configuration TVSS device when a first article sample is required (see 3.7). The inspection shall include the examination specified in 4.4 and the tests specified in 4.5.
- 4.3 <u>Conformance inspection</u>. The conformance inspection shall consist of the examination specified in 4.4 and the tests specified in 4.5.
- 4.4 Examination. Each TVSS device shall be visually examined for compliance with the requirements of 3.3. At the contractor's option, portions of the visual examination may be performed by automated optical and electronic sensors.

# 4.5 Methods of inspection.

4.5.1 <u>Electrical</u>. The TVSS device shall be tested in accordance with and shall be fully compliant with UL 1449 performance tests. The test impulse shall be an IEEE C62.41.1 and C62.41.2 Category B 6kV/3kA Combination wave using UL 1449 paragraphs 34.4, 34.5, and Table B1.1 calibration and testing criteria. The intent of this specification is to ensure uniform testing using 100% test impulses, appropriate

oscilloscope sample rates and 6" leads from outside the enclosure.

- 4.5.2 <u>Life cycle</u>. The number of applied voltage and current impulses to the TVSS device shall be 2500 each line-to-line and 2500 each line-to-ground; the impulses shall have a 1.2 x 50 microsecond waveshape and 1 kV magnitude for 115 Vrms devices and 2.5 kV for 440 Vrms devices per MIL-STD-1399-300A, applied at 90 electrical degrees positive polarity of the steady state ac waveform. Impulses shall be applied on the order of 2 per minute. The TVSS device shall withstand life cycle testing with zero failures and less than 10 percent degradation of any parameter. Should any failures occur, the Contractor shall take corrective action and restart the life cycle test from the beginning. The TVSS device must endure the application of at least 5000 impulses (2500 line-to-line and 2500 line-to-ground) without failure.
- 4.5.3 <u>Dimensions</u>. Measure external dimensions for conformance with the requirements of 3.3.5 and verify the size of bolt holes for mounting the units. The dimensions shall be measured and compared to the dimensions specified in this specification and in the contract documents.
- 4.5.4 <u>Shock.</u> Conformance with the requirements of 3.4.7 shall be verified by testing in accordance with MIL-S-901.
- 4.5.5 <u>Temperature</u>. Temp erature tests for conformance with the requirements of 3.4.2 shall be in accordance with MIL-STD-810, methods 501 and 502.
- 4.5.6 <u>Vibration</u>. For conformance with the requirements of 3.4.8, a vibration response investigation shall be performed. The TVSS device shall be subjected to endurance testing at fixed frequencies based upon the critical frequencies determined from the vibration response investigation. When the vibration response investigation does not identify critical frequencies, tests should be conducted at the maximum vibration frequency. The test duration at each frequency shall be 2 hours. The vibration frequency range and amplitude shall be as specified in Table IV.

TABLE IV. Vibration frequency range and amplitude.

Vibration Frequency Range (Hz)	Vibration Amplitude (mm)
4 to 10	0.75
11 to 15	0.75
16 to 25	0.50
26 to 33	0.25
34 to 40	0.13
41 to 50	0.08

4.6 Product verification tests . The following tests shall be performed on production units.

- 4.6.1 <u>Operation</u>. Every production TVSS device shall be powered at the factory to demonstrate that installed indicator lights and fusing are operational. Product verification testing as specified in 4.5.1 shall be accomplished at the discretion of the acquisition activity; at a minimum, every twenty-fifth production TVSS device shall undergo and pass testing.
- 4.6.2 <u>Assembly</u>. The TVSS device shall be visually inspected to ensure that all specified components are present. Where automated processes are employed for the assembly of TVSS devices, electro-optical devices may be used to perform the inspection.
  - 4.6.3 Workmanship. Components shall be visually inspected for defects.
- 4.6.4 <u>Inspection conditions</u>. Unless otherwise specified herein, all inspections shall be performed in accordance with the test conditions specified for the test method cited.

# 5. PACKAGING & SHIPPING

- 5.1 <u>Packaging</u>. Units will be packaged to prevent damage during shipping and loading in accordance with standard commercial packing.
  - 5.2 Shipping. Units will be shipped to:
    Naval Sea Systems Command Philadelphia
    1601 Langly Ave Building 542
    PHILADELPHIA, PA. 19112-5083
    Attn: Stephen Chung Code 9344
- 6. NOTES (This section contains information of a general or explanatory nature that may be helpful but is not mandatory.)
- 6.1 <u>Intended use.</u> The TVSS device specified herein is intended for the protection of sensitive shipboard electrical and electronic equipment. It is not intended to protect purely resistive loads.
- $6.2 \underline{\text{Acquisition requirements.}}$  Acquisition documents should specify the following:
  - a. Title, number, and date of this specification.
  - b. When first article is required (see 3.7).
  - c. Packaging requirements (see 5.1).